

***FlyBy Math™* Alignment**
Middle School Mathematics Core Content for Assessment
version 4.0 October 2005

Number Properties and Operations

Estimation

Content Statement

MA-07-1.2.1

Students will estimate to solve real-world and/or mathematical problems with fractions, decimals, and percents, checking for reasonable and appropriate computational results.
DOK - 2

***FlyBy Math™* Activities**

--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

 --Predict outcomes and explain results of mathematical models and experiments.

Ratios and Proportional Reasoning

Content Statement

MA-07-1.4.1

Students will apply ratios and proportional reasoning to solve real-world problems (e.g., percents, sales tax, discounts, rate).
DOK - 3

***FlyBy Math™* Activities**

--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Geometry

Coordinate Geometry

Content Statement

MA-07-3.3.1

Students will identify and graph ordered pairs on a coordinate system, correctly identifying the origin, axes, and ordered pairs; and will apply graphing in the coordinate system to solve real-world problems.
DOK - 2

***FlyBy Math™* Activities**

--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.

Data Analysis & Probability

Data Representations

Content Statement

MA-07-4.1.1

Students will analyze and make inferences from data displays (drawings, tables/charts, pictographs, bar graphs, circle graphs, line plots, Venn diagrams, line graphs, stem-and-leaf plots, scatter plots).
DOK - 3

***FlyBy Math™* Activities**

--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

<p><i>MA-07-4.1.1a</i> <i>Students will explain how different representations of data (e.g., tables, graphs, diagrams, plots) are related.</i></p>	<p>--Predict outcomes and explain results of mathematical models and experiments.</p> <p>--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.</p>
<p>MA-07-4.1.2 Students will construct data displays (bar graphs, line plots, Venn diagrams, tables, line graphs, stem-and-leaf plots), and will explain why the type of display is appropriate for the data. DOK - 2</p>	<p>--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs.</p> <p>--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.</p>

Algebraic Thinking

Patterns, Relations, and Functions

Content Statement	<i>FlyBy Math™</i> Activities
<p>MA-07-5.1.2 Students will represent, analyze, and generalize functions using tables, graphs, and words, and will apply the functions to solve real-world problems. DOK - 2</p>	<p>--Represent distance, speed, and time relationships for constant speed cases linear equations and a Cartesian coordinate system.</p> <p>--Use tables, graphs, and equations to solve aircraft conflict problems.</p>
<p><i>MA-07-5.1.2a</i> <i>Students will explain how tables, graphs, patterns, verbal rules, and equations relate to each other</i></p>	<p>--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.</p>
<p>MA-07-5.1.3 Students will explain how the change in one quantity affects the change in another quantity (e.g., in tables or graphs). DOK - 2</p>	<p>--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.</p> <p>--Interpret the slope of a line in the context of a distance-rate-time problem.</p>